



In the Specification

Please replace the title of the application on page 1, line 1, with the following amended title:

**A SENSOR WITH A PLURALITY OF SENSOR ELEMENTS ARRANGED WITH RESPECT
TO A SUBSTRATE**

Please replace the paragraph beginning on page 1, line 9, with the following amended paragraph:

Sensors exist that record forces or pressures on surfaces. In one example, the sensor is formed on a thin flat substrate. In particular, as shown in Fig. 1, which is a diagrammatic representation of an assembled prior art sensor, the sensor 10 includes a plurality of row electrodes 20a formed on a first half of a relatively thin substrate material 40 and a plurality of column electrodes 20b formed on a second half of the relatively thin substrate. The first half of the substrate is then folded onto or otherwise placed over the second half such that the row and column electrodes intersect. A sensor element 30 is disposed between the substrate layers at the intersection of a row and column electrode. To create the sensor element, a pressure sensitive ink is deposited at the intersection of and between a row electrode 20a and a column electrode 20b prior to placing the first substrate onto the second. The conductive ink is electrically coupled to the row and column electrodes. Forces acting at the intersection cause a corresponding change in the electrical resistance of the pressure sensitive ink, which, by way of the column and row electrodes, is subsequently detected by a control circuit. The resulting pressure sensor in Fig. 1 is arranged as a sensor array, with individual sensor elements arranged in rows 42 and columns 44. One example of such a sensor is described in commonly assigned U.S. Patent 4,856,993, which is hereby incorporated herein in its entirety.

Please replace the paragraph beginning on page 10, line 6, with the following amended paragraph:

As described above, to allow the sensor 220 to conform to an irregularly shaped surface or one subject to high deflections, slits 210 may be provided in the substrate (e.g., between the conductive traces and/or sensor elements). In the embodiment described with reference to Fig. 7, when viewing any four adjacent sensor elements (225, 229, 231, 235), two slits are provided. As shown in more detail with reference to Fig. 7, slit 223 (which is indicated with a bold line) follows portions of conductive traces 225', 229', and 231'. A similarly shaped slit 233 extends between sensor elements 231, 235 and 225. The two slits, although independent, exhibit an hour-glass shape between the four sensor elements, with a tail extending off the upper and lower portions of the hour glass shape.

Please replace the paragraph beginning on page 10, line 15, with the following amended paragraph:

The shape of the slits 233, 223 [[235]] may aid in the individual movement of the sensor elements. This sensor element and slit shape and/or placement may be advantageous in that it may permit sensor element movement in the diagonal direction of arrow B, or further in the direction of arrow B, as compared to an arrangement where the sensor elements are arranged in a matrix of linear rows and columns perpendicular to each other. It should be appreciated that the offset 208 between sensor elements may change the shape of the slits.